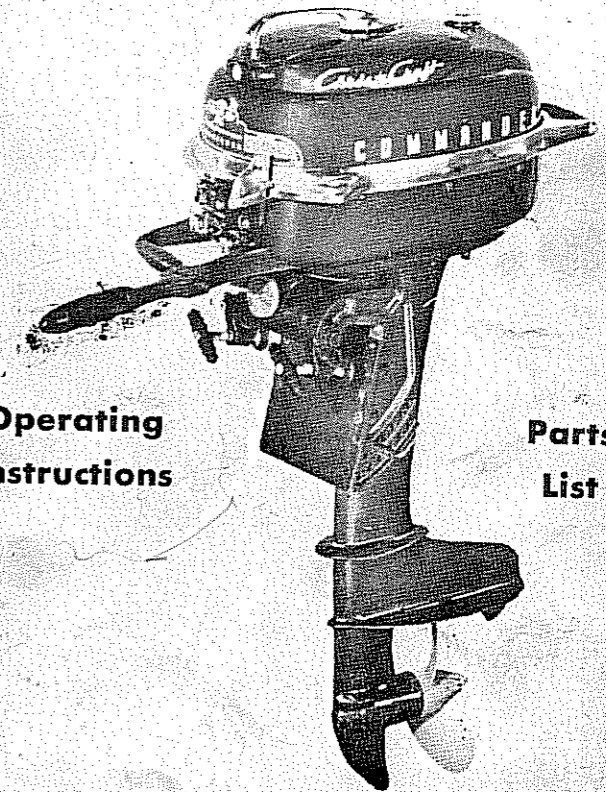


Chris-Craft

COMMANDER OUTBOARD MOTOR

MANUAL

Model K



Operating
Instructions

Parts
List

CHRIS-CRAFT OUTBOARD MOTORS

Grand Rapids, Michigan

Dear Chris-Craft Outboard Motor Owner:

Your Chris-Craft Outboard Motor represents not only the finest in engineering, skill, design, and quality material and workmanship but also incorporates the background of more than a quarter of a century of actual marine knowledge and experience of the world's largest producers of motor-boats.

To further guarantee your full enjoyment of the superior performance and quality built into your Chris-Craft Outboard Motor, it was individually tested not once but twice. At both times the engine was carefully checked and adjustments made to assure you the maximum in pleasure both now and in the future as well.

Your Chris-Craft Outboard Motor, like any other engine, requires a certain amount of care if it is to continue providing the utmost in performance with a minimum of service attention during the years ahead. It's the purpose of this book to acquaint you with the normal care which will aid you in deriving the best at all times from your motor.

Your Chris-Craft Model K-10 series engine is equipped with roller and ball bearings throughout. Also, it is shipped from the factory ready for immediate operation. When making ready to place the engine in operation, be sure to use the recommended gasoline and oil mixture. Also, please read the suggestions for starting, etc., given in this manual before actual operation is first attempted.

CHRIS-CRAFT OUTBOARD MOTORS

Grand Rapids, Michigan

Chris-Craft Outboard Motors

Warranty

Chris-Craft Outboard Motors are warranted to be free from defects in material or workmanship under normal use and service; the Company's obligation under this warranty being limited to replacing or repairing any part or parts thereof, which shall disclose defects within THREE MONTHS after date of delivery to the Owner, and which examination by Company shall determine to be defective or not up to specifications; providing that Owner or dealer shall make claim thereon and return said part or parts to Company, transportation prepaid, within 30 days after defect is discovered. This warranty being expressly in lieu of all other warranties and representations expressed or implied, and of all other obligations or liabilities on the part of Company connected with the sale or use of our outboard motors. The Company does not authorize Dealer, or other person to assume for Company any liability in connection with said warranty of Chris-Craft Outboard Motors.

This warranty shall not apply to any Chris-Craft Outboard Motor or part manufactured by Chris-Craft Corporation, which shall have been altered or repaired outside of the factory or by use of parts not made or sold by the Company, in any way that, in the Company's judgment affects its stability or reliability, or which has been subject to misuse, neglect or accident.

This warranty will not apply to any motor accessories, or parts, not of our manufacture which we may use as these are generally warranted by their respective manufacturers.

CHRIS-CRAFT OUTBOARD MOTORS

Grand Rapids, Michigan

SPECIFICATIONS

CHRIS-CRAFT COMMANDER OUTBOARD MOTOR

Model	K
Power Head	Reed Valve, 2-Port
No. of Cylinders	2-Alternate Firing
Bore and Stroke	2-1/2" x 2-1/32"
Piston Displacement	19.94 cu. in.
Brake Horsepower	10 @ 4000 RPM
Weight Fully Equipped	70 lbs.
Propeller Diameter and Pitch	8-3/4 x 9" L.H. 2 Blade
Starting Device	Rewinding Rope
Fuel Tank Capacity	2 Gallons
Bearings	All Anti-Friction
Connecting Rods	Drop Forged Alloy Steel
Gear Ratio	13 - 17
Ignition	Magneto-Scintilla
Carburetor Make	Tillotson-Concentric-Glass Strainer Bowl
Exhaust	Under Water
Cooling System	Rotary Pump
Steering	Adjustable Tension
Stern Height	15"

This Outboard Motor Manual includes operating instructions and parts list for the Model K Outboard Motor. It is not designed for a technical service manual, but more with the idea of giving the average owner some important information about his motor and the proper procedure to order parts. Your dealer has been supplied with return parts tags which must accompany each part returned under Warranty for repair or replacement. These tags must be completely filled out with Serial Number of motor and date of purchase, also reason for return. The Serial Number Plate is attached to the left side of the cylinder block as you face the motor.

IMPORTANT

Note the tag attached to your motor which contains information for the proper breaking in of a new motor, reading as follows:

Run motor at half throttle for one hour and do not run beyond "START" position for the next seven hours of operation.

Do not expect good idle performance until motor has run for a total of ten hours.

Do not run motor out of water as this may cause damage to the water pump rotor and possible serious damage to the motor.

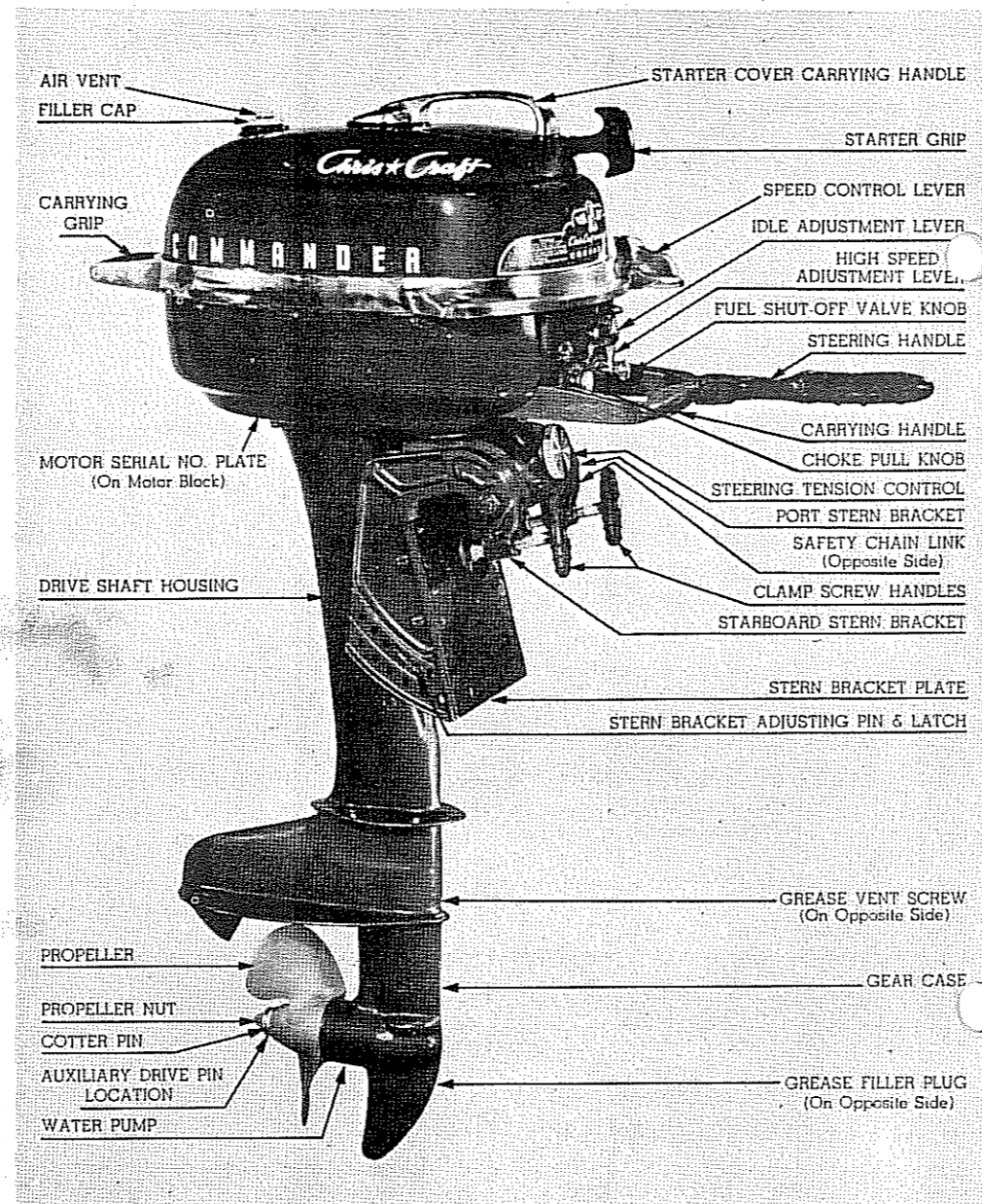
CAUTION

Before starting motor, read operating instructions on fuel tank which are as follows:

1. Thoroughly mix 1/2 pint of SAE No. 30 oil with one gallon of regular automotive type gasoline. Special outboard (non-detergent) oil preferred with regular automotive gasoline. (For continuous high speed operation 3/4 pint to gallon of gasoline mixture.)
2. Open fuel shut-off valve.
3. Open filler cap air vent.
4. Set carburetor levers straight up and down.
5. Place speed control lever at Start.
6. Pull out choke when starting cold motor.
7. Pull starter handle.
8. Push choke in quickly when motor starts.

To properly mix the SAE No. 30 oil with gasoline it is very important that they should be mixed in a separate container, not in the outboard motor fuel tank. When the oil is not thoroughly mixed with the gasoline, a very serious condition may result. The unmixed oil will cause the motor to smoke and foul up the plugs and the raw gasoline will cause the motor to overheat and may result in damage to the motor from lack of lubrication.

It is also important that fuel mixture be strained while pouring into the fuel tank to prevent foreign matter from clogging the fuel system.



TO INSTALL MOTOR ON BOAT

1. Be sure Clamp Screw Handles are turned all the way counter-clockwise for greatest opening.
2. Grasp motor by Carrying Handle and Carrying Grip and let down easily over transom of boat. Starter Cover Carrying Handle will also assist this operation.
3. Tighten Clamp Screw Handles evenly and by hand being sure that motor is in exact center of boat.
4. Fasten chain to Safety Link.
5. Adjust angle of motor so that the drive shaft housing is perpendicular to the water surface when the boat is in level running position. This is accomplished by tilting the motor forward with the Starter Cover Handle and putting the Stern Bracket Adjusting Pin and Latch in the proper holes in the Stern Brackets. After test running the boat at full throttle, if it seems to be bow heavy, move the Latch Pin aft to raise the bow. If it seems to be riding too high at the bow, move the Latch Pin forward to lower the bow.

AIR VENT—Open air vent before starting motor because fuel will not flow when vent is closed. Close vent when tilting or removing motor from boat as fuel will spill if not closed.

FUEL SHUT-OFF VALVE KNOB—This valve is located on instrument panel and must be wide open before starting motor and remain wide open while motor is operating. This valve should be closed when motor is removed from boat.

SPEED CONTROL LEVER—This lever controls the speed of the motor from slow to fast. Before starting motor, speed lever should be placed on position marked START. For full speed, this lever should be moved to the right until top RPM on particular boat is achieved. Further advance than necessary is for lighter boats and may cause overheating and slowing down. Mark best position when determined.

IDLE ADJUSTMENT LEVER—For starting, set this lever straight down. After motor has been properly broken in, this idle adjustment can be set for best operation when the motor is hot.

HIGH SPEED ADJUSTMENT LEVER—Set the high speed adjustment lever straight up for starting. This high speed adjustment lever can be changed to suit best operation after the motor has been properly broken in and has run long enough to be warmed up. Best performance all through the range will be obtained if the high speed carburetor adjustment is set slightly rich.

CHOKE PULL KNOB—When the choke knob is pulled all the way out, the carburetor is fully choked. This should be done momentarily and pushed in as soon as the motor starts to run.

STARTER GRIP—The starter grip is a rubber "T" shaped handle attached to the starter cable which operates the Chris-Craft Ball-Bearing-Mounted-Sheave, Positive Action, Dog-Type Starter. To start motor, pull starter grip sharply and allow handle to return to original position automatically, but do not let go of starter handle and allow it to snap back to original position.

STEERING HANDLE—This handle is for steering the motor and should NOT be used to tilt the motor over obstructions or in shallow water. To tilt the motor, grasp the handle on top of the tank and pull up to desired position.

CARRYING HANDLE—This handle is for carrying the motor and also to aid in lifting from boat. This carrying handle has a slot underneath for a steering rope connection device supplied as an accessory for steering wheels.

CARRYING GRIP—This handle is for carrying motor and also to aid in lifting from boat.

SAFETY CHAIN LINK—A chain should be fastened to the safety chain link and secured to the boat after the motor is clamped in place. This added precaution may prevent accidental loss of the motor overboard.

CLAMP SCREW HANDLES—These handles should be tightened firmly to the stern of the boat, being careful to tighten them together giving each the same tension. In no case should a wrench be used or other means than by hand.

STARTER COVER CARRYING HANDLE—This handle is primarily intended to tilt motor for adjustment or in shallow water but can also be used to assist owner when installing motor on boat or removing motor from boat.

STERN BRACKET ADJUSTING PIN AND LATCH—This is a spring loaded pin and latch assembly to adjust the motor to the proper angle so that the boat will plane in a level riding position.

STEERING TENSION CONTROL—Turning this knob clockwise increases tension on motor so that at idle or slow speeds the boat will follow a straight line course. For high speed operation this knob should be turned counter-clockwise all the way to release all tension for free and unrestricted steering.

STERN BRACKET PLATE—To provide a permanent installation of motor to boat, two bolts may be used to fasten this plate to the transom, through the two holes provided in this plate.

GREASE VENT SCREW—The vent screw is located in the transmission housing and is removed when adding grease to the gear case. When grease is added, enough should be forced in until it comes out the vent screw hole. Do not expect to do this rapidly as it takes time for the grease to force through the bearings and, gradually come out the vent.

GREASE FILLER PLUG—To inject grease into the gear case, this filler plug should be removed and a good grade of outboard underwater gear grease (approved for anti-friction bearing) forced in until it comes out the vent screw hole previously mentioned.

SHOCK ABSORBER AND SHEAR PIN—To provide maximum protection for the propeller, it is equipped with both a rubber shock absorber and a shear pin. All minor shocks from hitting underwater obstructions will be absorbed by the shock absorber and probably will not result in a sheared pin. However, to change a shear pin, remove the cotter pin from propeller nut, after which the propeller nut can be removed from the shaft. Now slide off propeller, propeller hub and shock absorber and replace broken pin. In case of emergency caused by the complete failure of the rubber shock absorber, an auxiliary drive is provided by inserting a shear pin in the hole parallel with the propeller shaft between the propeller and propeller hub. After pin is inserted, replace propeller nut and cotter pin and auxiliary drive is ready to operate.

TO REMOVE MOTOR FROM BOAT First run motor at idle speed, if possible, with fuel shut-off valve closed. This will use excess carburetor fuel. Loosen clamp screw handles and lift motor vertically by means of carrying handles. Drain holes have been provided in the lower unit to allow water to drain out of motor when held for a few minutes in a vertical position. Also pull

starter slowly once or twice with speed control lever at "Stop" to eject all water possible. It is very important that this be done in this manner so that water will not flow into the cylinders. It is good policy to never allow the lower unit to be above the power head. For transporting in car, lay motor on side with STARTER GRIP SIDE DOWN.

SUBMERGED MOTOR—Do not attempt to start motor or rotate flywheel until the following procedure has been completed. Should a motor be submerged the Company recommends that if at all possible it should be immediately taken to your nearest dealer. If this is not possible, proceed as follows: Remove starter cover, fuel tank, fuel line, carburetor, flywheel, magneto and spark plugs. CAUTION—under no circumstances hammer flywheel nut to loosen flywheel. USE A FLYWHEEL PULLER. Wipe off all parts carefully and place in a warm, not hot, place to dry. Replace flywheel to aid in turning crankshaft. Remove as much water as possible from cylinders and crankcase by turning motor slowly by hand with flywheel in an upright and inverted position. Remove intake manifold, pour lubricating oil in crankcase and spark plug holes, and rotate flywheel slowly to distribute oil over all internal parts.

When all parts previously removed are dry and wiped clean, reassemble, clean and fill tank with fresh fuel mixture, first making sure no water remains in tank. Start motor according to instructions and allow to run until reasonably sure no water remains. If motor is noisy or won't start, internal damage to rods, bearings, or pistons may have been done necessitating complete overhaul. TAKE TO DEALER.

SALT WATER INSTRUCTIONS—As a precaution after operating the motor in salt water it is advisable to flush the cooling system with fresh water. A good flushing can be accomplished by running motor at slow speed for several minutes in a barrel of fresh water and then wiping lower unit parts with an oily cloth.

STORAGE PRECAUTIONS—Place motor in vertical position, remove grease plug and grease vent screw, drain all water that may be left in the gear case, place speed control lever on STOP and pull starter cord several times to remove any water remaining in power head or cooling system, including water pump housing. Refill with grease until grease comes out of grease vent and replace grease vent screw and grease plug. Remove spark plugs, pour two tablespoons of oil in each spark plug opening, pull starter cord slowly to distribute oil on cylinder walls, replace spark plugs. Drain all fuel from carburetor, fuel line and gas tank. Clean fuel screen in carburetor. If stored for a long period of time, it is advisable to periodically pull starter cord several times to redistribute oil. Motor should be stored in an upright or vertical position and in a warm dry place.

PREPARATION FOR USE AFTER STORAGE—Remove spark plugs, ground ignition wires to some part of motor and pull starter cord several times to remove all excess oil in crankcase and cylinders. Clean and replace spark plugs, fill tank with proper fuel mixture, start in usual manner and operate at slow speed on boat for 15 minutes to insure thorough cleaning of power head. Remove and clean spark plugs and replace.

GENERAL INFORMATION—Should the starter cable break at a time when it is impossible to have it easily replaced, proceed as follows:

- (1) Remove 3 screws from starter cover and remove starter cover.
- (2) Wrap starter cord around auxiliary pulley on top of flywheel and proceed to start motor according to regular instructions.

Spark Plugs—Should be occasionally removed for cleaning and adjusting of the points for which the correct setting is .028 inches.

Magneto—Scintilla contact breaker points should be set at .018 inches. After each 100 hours of operation apply two (2) drops of a good grade SAE No. 60 oil to each cam oiler felt. Keep oil and grease away from the contact point surfaces.

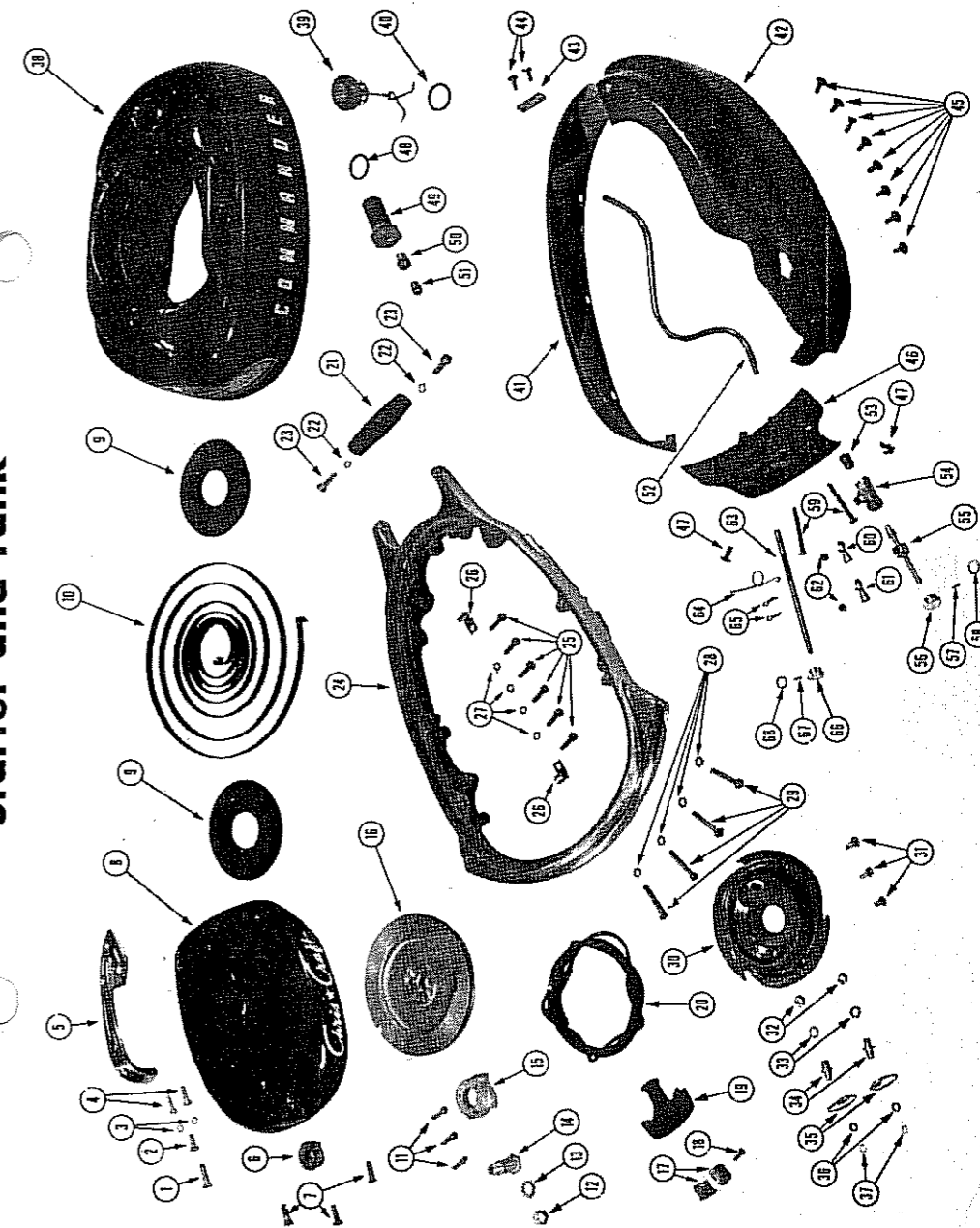
Check gear case grease plug for proper amount of grease at regular intervals, because these gears and bearings should be properly lubricated at all times.

If your motor fails to start, or does not operate properly, check the following:

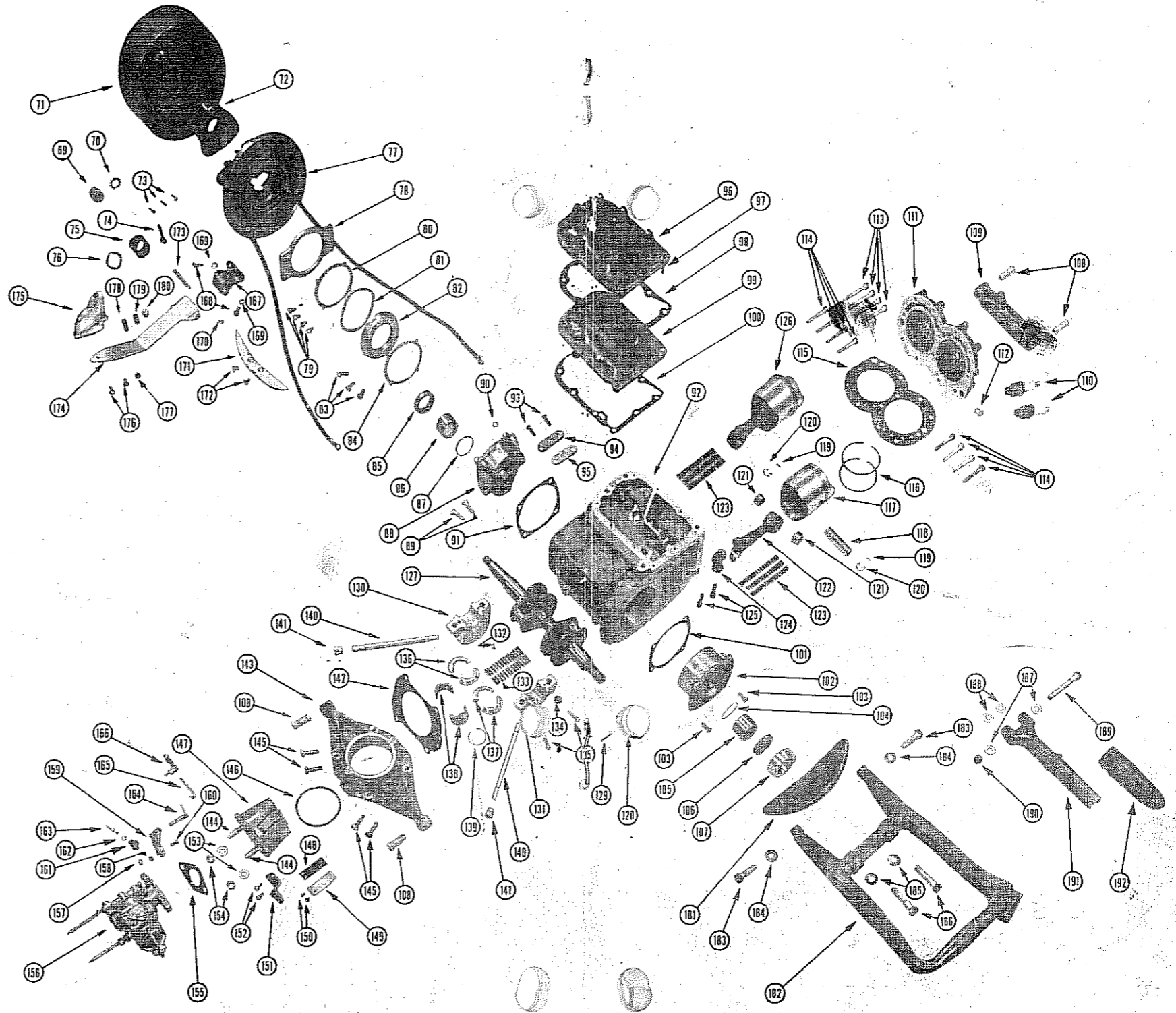
- (1) Fuel Tank—for fuel and proper mixture.
- (2) Fuel Shut-Off Valve—must be open.
- (3) Air Vent—must be open.
- (4) Clogged Fuel Line—fuel line or carburetor screen obstruction—clean. Remove glass bowl, clean and replace.
- (5) Ignition—Rotate flywheel holding ignition lead about $\frac{1}{8}$ " from spark plug. Spark jump should occur. Test both leads.
- (6) Spark plug—fouled or need replacing—clean or replace.
- (7) Carburetor—improper adjustments—reset as per instructions for starting.

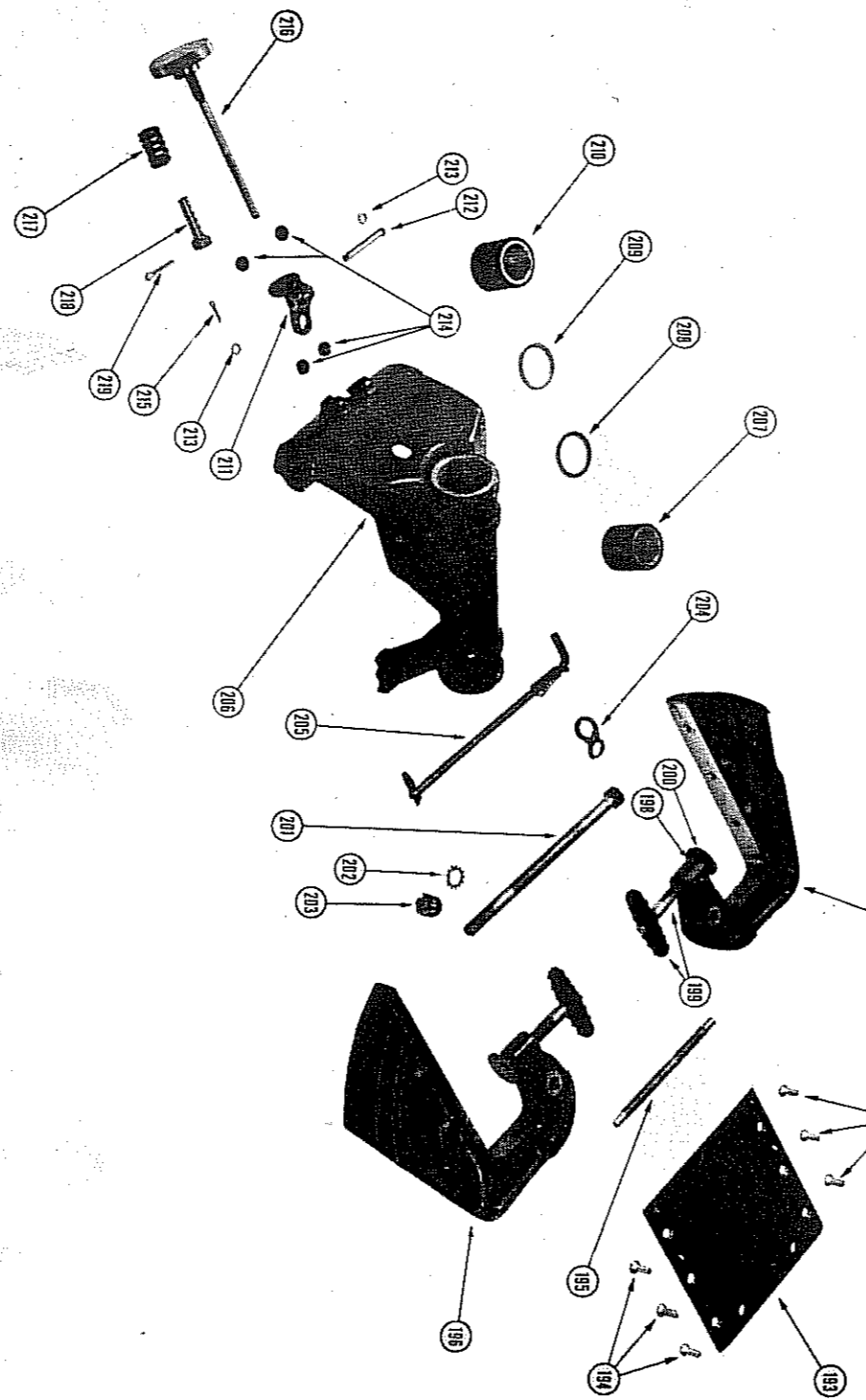
If your motor is getting properly mixed fuel, carburetor settings are correct, ignition sparking properly and spark plugs are clean, it should start and run properly. If after checking the above, it still fails to start or operate properly, take the motor to your dealer for servicing.

Starter and Tank



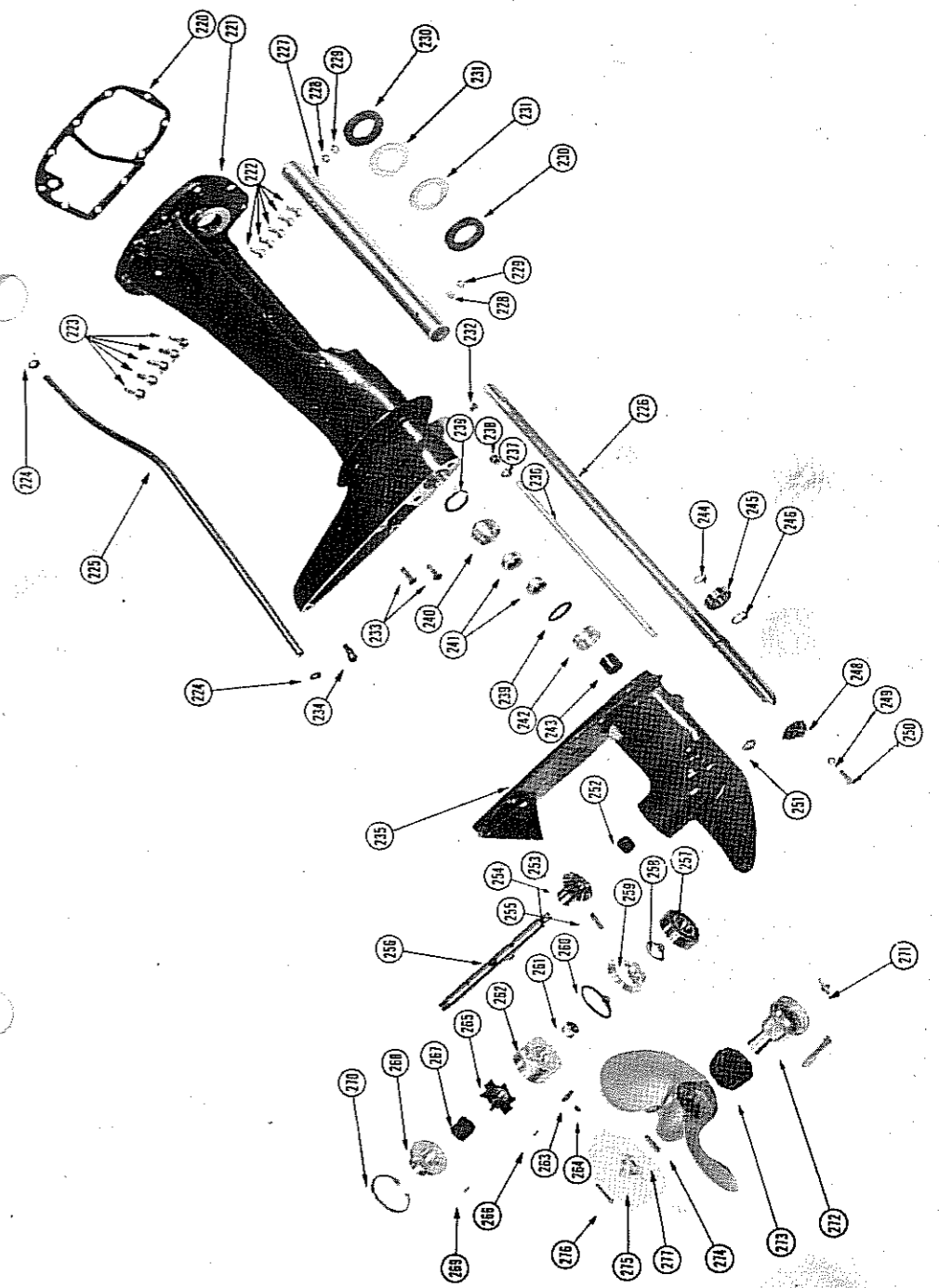
POWER HEAD



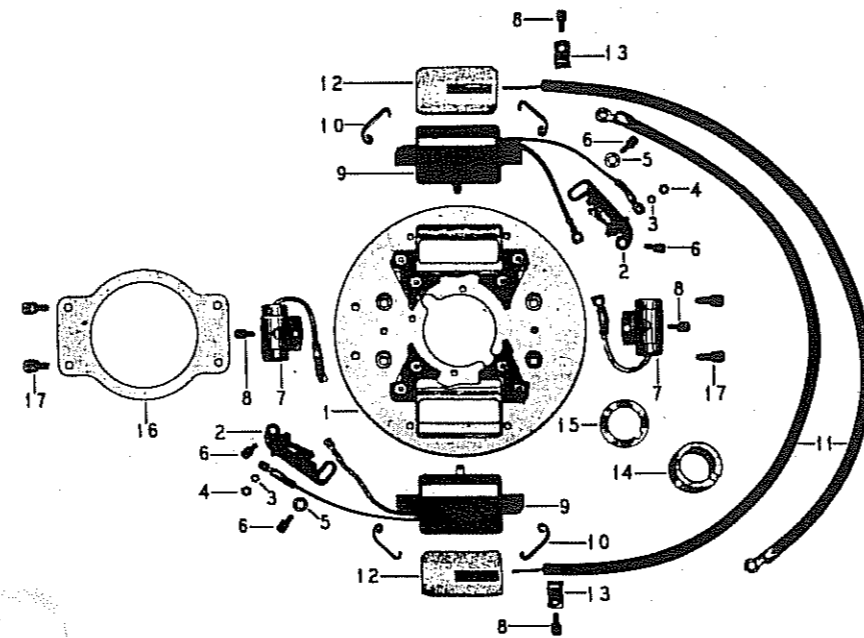


Stern and Swivel Bracket

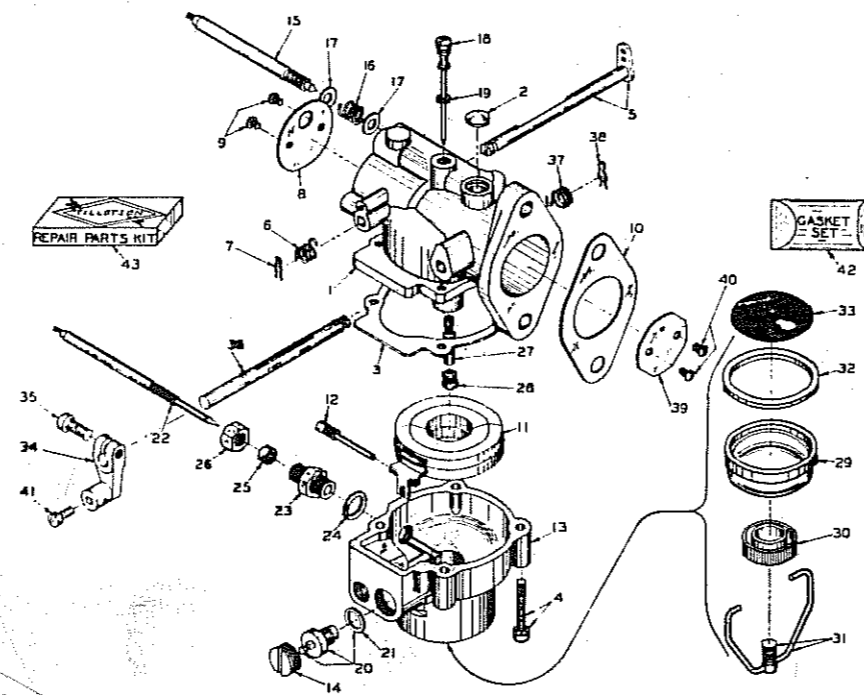
Lower Unit



Magneto



Carburetor



STARTER AND TANK

Ref. No.	Part No.	No. Req.	PART NAME
	101000		Starter Cover Assembly (Includes Ref. 1 - 20)
1	101001	1	Screw—Oval Head - Long - Starter Cover Handle
2	101002	1	Screw—Oval Head - Short - Starter Cover Handle
3	101003	2	Lockwasher—Starter Cover Handle
4	101004	2	Screw—Fillister Head—Starter Cover Handle
5	101005	1	Handle—Starter Cover
6	101006	1	Bearing—Starter
7	101007	3	Screw—Oval—Starter Cover
8	101008	1	Cover—Starter
9	101009	2	Washer—Starter Rewind Spring
10	101010	1	Spring—Starter Rewind
11	101011	3	Screw—Fillister Head—Starter Crab
12	101012	1	Nut—Starter Sheave Retainer
13	101013	1	Lockwasher—Starter Sheave Retainer
14	101014	1	Screw—Starter Sheave Retainer
15	101015	1	Crab—Starter
16	101016	1	Sheave—Starter
17	101017	1	Clamp & Nut for Starter Cable (Includes Ref. 18)
18	101018	1	Screw—Oval Head—Starter Cable Clamp & Nut
19	101019	1	Grip—Starter
20	101020	1	Starter Cable Assembly
21	103000	1	Grip—Carrying
22	103001	2	Lockwasher—Carrying Grip
23	103002	2	Screw—Fillister Head—Carrying Grip
24	103003	1	Frame—Fuel Tank
25	103004	6	Screw—Cap—Tank to Frame
26	103005	2	Clip—High Tension Lead (Optional)
27	103006	4	Lockwasher—Tank Frame
28	103007	4	Lockwasher—Tank Support Bracket
29	103008	4	Screw—Cap—Tank Fastening
	101021		Starter Dog Retainer Assembly (Incl. Ref. 30 - 37)
30	101022	1	Retainer—Starter Dog
31	101023	3	Screw—Flat Head—Starter Dog Retainer
32	101024	2	Nut—Starter Dog Retainer Pin
33	101025	2	Lockwasher—Starter Dog Retainer Pin Nut
34	101026	2	Pin—Starter Dog Retainer
35	101027	2	Dog—Starter
36	101028	2	Washer—Starter Dog
37	101029	2	Ring—Starter Dog Retainer Pin
38	103009	1	Tank—Fuel
39	103010	1	Cap—Fuel Tank Filler
40	103011	1	Gasket—Fuel Tank Filler Cap
41	103012	1	Shroud—Port
42	103013	1	Shroud—Starboard
43	103014	1	Strap—Shroud Retainer
44	103015	2	Screw—Truss Head—Retainer Strap
45	103016	8	Screw—Truss Head—Shroud
46	103017	1	Panel—Shroud
47	103018	2	Screw—Truss Head, Chrome Plated - Panel to Shroud
48	103019	1	Washer—Fuel Tank Reducer
49	103020	1	Reducer—Fuel Tank Outlet

USE PART NUMBER AND BE SURE TO SPECIFY MOTOR SERIAL NUMBER WHEN ORDERING PARTS

STARTER AND TANK (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
49	103020A	1	Reducer—Fuel Tank Outlet (Required After Motor Serial No. 102200)
50	103021	1	Bushing—Fuel Outlet Reducing
51	103022	1	Connector—Fuel Outlet
52	103023	1	Line—Fuel
53 thru 58	103024	1	Valve—Fuel Shut-Off (Sold only as assembled unit)
59	103025	2	Screw—Truss Head, Chrome Plated—Shroud Panel to Carburetor
60	103026	1	Lever—Needle Valve "IDLE" (chrome plated)
61	103027	1	Lever—Needle Valve "HIGH SPEED" (chrome plated)
62	103028	2	Nut—Acorn, Chrome Plated—Needle Valve Lever
63	103029	1	Rod—Choke Pull
64	103030	1	Spring—Choke Pull Rod
65	103031	2	Pin—Choke Pull Rod Cotter
66	103032	1	Knob—Choke Pull Rod (chrome plated)
67	103033	1	Pin—Choke Pull Rod Knob
68	103034	1	Ring—Choke Pull Rod Knob Retaining Pin
POWER HEAD			
	105000		Power Head Assembly (Includes Ref. 69 - 180)
	105001		Power Head Assembly (Less Magneto, Carburetor and Flywheel)
69	105002	1	Nut—Flywheel
70	105003	1	Lockwasher—Flywheel Nut
71	105004	1	Flywheel (Ref. 71, 72 & 73 sold as assembly and magnetized after assembly)
72	105005	1	Rotor—Magneto (Sold only with Flywheel)
73	105006	3	Rivets—Rotor to Flywheel (See Ref. 71)
74	105007	1	Key—Woodruff—Flywheel
75	105008	1	Cam—Magneto (Magneto Part No. 10-58243)
76	105009	1	Washer—Waved (Magneto Part No. 10-58244)
77	105010	1	Magneto (Magneto Part No. 10-58200)
78	105011	1	Plate—Magneto Retaining (Magneto Part No. 10-58235)
79	105012	4	Screw & Lockwasher—Retaining Plate (Magneto Part No. 10-58245)
80	105013	2	Ring—Magneto Mounting Adaptor Friction
81	105014	1	Washer—Waved—Magneto Mounting Adaptor
82	105015	1	Adaptor—Magneto
83	105016	3	Screw—Fillister Head—Magneto Adaptor
84	105017		See Reference 80
85	105018	1	Seal—Upper Main Bearing
86	105019	1	Bearing—Upper Main Roller
87	105020	1	Ring—Upper Main Bearing Retainer
88	105021	1	Retainer—Upper Main Bearing
89	105022	4	Screw—Flat Head—Retainer to Block
90	105024	1	Seal—Upper Main Bearing Retainer Screw
91	105025	1	Gasket—Upper Main Bearing Retainer to Block
92	105026	1	Block—Cylinder & Crankcase (Unit cast)
93	105027	2	Screw—Flat Head—Water Jacket Plate

USE PART NUMBER AND BE SURE TO SPECIFY
MOTOR SERIAL NUMBER WHEN ORDERING PARTS

POWER HEAD (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
94	105028	1	Cover—Water Jacket Plate
95	105029	1	Gasket—Water Jacket Plate
96	105030	1	Jacket—Exhaust Port Cover
97	105031	9	Screw—Fillister Head—Long—Exhaust Port Cover to Block
97A	105032	1	Screw—Fillister Head—Short—Exhaust Port Cover to Block
98	105033	1	Gasket—Exhaust Port Cover Jacket
99	105034	1	Cover—Exhaust Port
100	105035	1	Gasket—Exhaust Port Cover to Block
101	105036	1	Gasket—Lower Main Bearing to Block
102	105037	1	Retainer—Lower Main Bearing
103	105038	4	Screw—Flat Head—Lower Main Bearing Retainer
104	105039	1	Ring—Lower Main Bearing Retainer
105	105040	1	Bearing—Lower Main Roller
106	105041	1	Seal—Lower Main Bearing
107	105042	1	Retainer—Lower Main Bearing Seal
108	105043	4	Screw—Fuel Tank Adjusting
109	105044	1	Bracket—Fuel Tank (Rear)
110	105045	2	Spark Plug with Nut & Gasket
111	105046	1	Head—Cylinder
112	105047	1	Plug—Cylinder Head
113	105048	4	Screw—Cap—Cylinder Head—Long
114	105049	8	Screw—Cap—Cylinder Head—Short
115	105050	1	Gasket—Cylinder Head
116	105051	4	Ring—Piston
117	105052	2	Piston
118	105053	2	Pin—Piston
119	105054	4	Pin—Piston Ring Retaining
120	105055	4	Ring—Piston Pin Retaining
121	105056	4	Roller Bearing—Piston Pin
122	105057	2	Connecting Rod Assembly (Includes Ref. 124-125)
123	105058	112	Rollers—Connecting Rod (56 per Rod on Crank End)
124	105059	2	Cap—Connecting Rod (Sold only with Ref. 122)
125	105060	4	Bolt—Connecting Rod
126	105061	2	Piston & Connecting Rod Assembly (Includes Ref. 117-125)
127	105062	1	Crankshaft
128	105063	1	Coupling—Crankshaft to Drive Shaft
129	105064	1	Pin—Crankshaft Coupling
130	105065	1	Center Main Bearing Retainer—Block Side
131	105066	1	Center Main Bearing Retainer—Manifold Side (Ref. 130 & 131 sold only as unit with Ref. 134 & 135)
132	105067	1	Dowel—Center Main Bearing Outer Race
133	105068	28	Rollers—Center Main Bearing
134	105069	2	Dowel—Locating—Center Main Bearing Retainer
135	105070	2	Screw—Fillister Head—Center Main Bearing Retainer (Ref. 134 & 135 sold only as unit with Ref. 130 & 131)
136	105071	2pr.	Washer—Thrust—Center Main Bearing
137	105072		See Reference 136

USE PART NUMBER AND BE SURE TO SPECIFY
MOTOR SERIAL NUMBER WHEN ORDERING PARTS

POWER HEAD (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
138	105073	1	Outer Race—Center Main Bearing (Includes Ref. 137)
139	105074	1	Ring—Retaining—Outer Race (Sold only as unit with Ref. 138)
140	105075	2	Stud—Center Main Bearing
141	105076	2	Nut—Center Main Bearing Stud
	105077	2	Lockwasher—Nut to Stud (Not pictured)
142	105078	1	Gasket—Manifold Retainer to Cylinder Block
143	105079	1	Retainer—Manifold
144	105080	2	Stud—Manifold to Carburetor
145	105081	4	Screw—Manifold Retainer to Cylinder Block
146	105082	1	Gasket—Manifold to Retainer
147	105083	1	Manifold—Intake (Incl. Ref. 148, 149 & 150)
148	105084	6	Reed—Intake Manifold
149	105085	6	Support—Intake Manifold Reed
150	105086	12	Screw—Round Head—Reed Support
151	105087	1	Bracket—Choke Rod Support
152	105088	2	Screw—Fillister Head—Choke Rod Support
153	105089	2	Lockwasher—Manifold to Carburetor
154	105090	2	Nut—Manifold to Carburetor Stud
155	105091	1	Gasket—Carburetor
156	105092	1	Carburetor (Carburetor Part No. MD-45A)
157	105093	1	Screw—Throttle Cam Lever
158	105094	1	Dowel—Throttle Aux. Shaft Bracket
159	105095	1	Bracket—Throttle Aux. Shaft
160	105096	1	Screw—Throttle Aux. Shaft Bracket
161	105097	1	Throttle Cam Lever Assembly (Includes Ref. 162 & 163) (Sold only as assembly)
162	105098	1	Washer—Throttle Cam Lever (Sold only with Ref. 161)
163	105099	1	Stud—Throttle Cam Lever (Sold only with Ref. 161)
164	105100	1	Throttle Aux. Shaft and Lever (Specify Motor Serial Number)
165	105101	1	Link—Throttle Lever
166	105102	1	Lever Throttle—(Carburetor Part No. 09284)
167	105103	1	Bracket—Throttle Cam
168	105104	2	Screw—Fillister Head—Throttle Cam Bracket to Magneto
169	105105	2	Lockwasher—Throttle Cam Bracket
170	105106	1	Washer—Speed Control Lever Hinge Pin
171	105107	1	Cam—Throttle
172	105108	2	Screw—Flat Head—Throttle Cam to Bracket
173	105109	1	Pin—Speed Control Lever Hinge
	105110		Speed Control Lever & Knob Assembly (Includes Ref. 174 - 180)
174	105111	1	Lever—Speed Control
175	105112	1	Knob—Speed Control
176	105113	2	Screw—Flat Head—Speed Control Knob to Lever
177	105114	1	Washer—Thrust—Speed Control Lever
178	105115	1	Clamp—Speed Control Knob
179	105116	1	Spring—Speed Control Knob Clamp

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MOTOR SERIAL NUMBER WHEN ORDERING PARTS

POWER HEAD (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
180	105117	1	Screw—Speed Control Knob Clamp
181	105201	1	Swivel Bracket Quadrant & Bracket Assembly
182	105202	1	Handle—Carrying
183	105203	2	Bolt—Hex Head—Short—Carrying Handle to Block
184	105204	2	Washer—Flat—Thick—Carrying Handle to Block
185	105205	2	Washer—Flat—Thin—Carrying Handle to Block
186	105206	2	Bolt—Hex Head—Long—Carrying Handle to Block
187	105207	2	Washer—Flat—Thick—Steering Handle
188	105208	2	Washer—Flat—Thin—Steering Handle
189	105209	1	Bolt—Hex Head—Steering Handle
190	105210	1	Nut—Stop
191	105211	1	Handle—Steering
192	105212	1	Grip—Rubber—Steering Handle
STERN AND SWIVEL BRACKET			
193	107001	1	Plate—Stern Bracket—Assembly
194	107002	6	Screw—Flat Head—Plate to Stern Bracket
195	107003	1	Pin—Swivel Bracket Stop
196	107004	1	Bracket—Port Stern—Assy. (Incl. Ref. 198, - 200)
197	107005	1	Bracket—Starboard Stern—Assy. (Same as Ref. 196)
198	107006	2	Washer—Stern Bracket Pressure Plate
199	107007	2	Handle & Clamp Screw—Stern Bracket
200	107008	2	Plate—Pressure—Stern Bracket
201	107009	1	Shaft—Tilting
202	107010	1	Lockwasher—Tilting Shaft
203	107011	1	Nut—Tilting Shaft
204	107012	1	Link—Safety Chain
205	107013	1	Pin & Latch Assembly—Tilt Adjusting
206	107014	1	Bracket—Swivel
207	107015	1	Bushing—Swivel Bracket Lower
208	107016	1	Washer—Swivel Bracket Lower
209	107017	1	Washer—Swivel Bracket Upper (Same as Ref. 208)
210	107018	1	Bushing—Swivel Bracket Upper (Same as Ref. 207)
211	107019	1	Clamp—Swivel Bracket
212	107020	1	Pin—Hinge—Swivel Bracket Clamp
213	107021	2	Washer—Swivel Bracket Hinge Pin
214	107022	4	Pad—Friction—Swivel Bracket
215	107023	1	Pin—Cotter—Swivel Bracket Hinge Pin
216	107024	1	Knob & Shaft Assembly—Swivel Bracket Clamp
217	107025	1	Spring—Swivel Bracket Clamp
218	107026	1	Stop—Swivel Bracket Clamp Screw
219	107027	1	Pin—Cotter—Swivel Bracket Clamp Screw Stop
LOWER UNIT			
	109000		Drive Shaft Housing & Gear Case Assy.—Less Propeller Assy. (Includes Ref. 220 - 270)
220	109001	1	Gasket—Transmission Housing to Cylinder Block
221	109002	1	Housing—Drive Shaft
222	109003	5	Screw—Oval Head—Drive Shaft Housing to Block
223	109004	5	Screw—Fillister Head - Drive Shaft Housing to Block
224	109005	2	Seal—Rubber—Water Tube
225	109006	1	Tube—Water
226	109007	1	Shaft—Drive (Specify Motor Serial No.)

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LOWER UNIT (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
227	109008	1	Column—Swivel
228	109009	2	Screw—Dog Point Set
229	109010	2	Screw—Flat Point Set
230	109011	2	Washer—Swivel Bracket—Thrust (Fiber)
231	109012	2	Washer—Swivel Bracket—Thrust (Metal)
232	109013	1	Screw—Grease—Air Vent
233	109014	2	Screw—Flat Head—Gear Case to Drive Shaft Hsg.
234	109015	1	Screw—Fillister Head—Gear Case to Dr. Shaft Hsg.
	109016		Gear Case Assy. (Inc. Ref. 226 & 235 - 270)
235	109017	1	Gear Case
236	109018	1	Stud—Gear Case to Drive Shaft Housing
237	109019	1	Lockwasher—Stud
238	109020	1	Nut—Stud
239	109021	2	Seal—Drive Shaft Housing
240	109022	1	Retainer—Drive Shaft Seal
241	109023	2	Seal—Drive Shaft
242	109024	1	Spacer—Drive Shaft Roller Bearing
243	109025	1	Bearing—Roller—Drive Shaft
244	109026	1	Ring—Retaining—Drive Shaft Bearing
245	109027	1	Bearing—Ball—Drive Shaft
246	109028	1	Spacer—Drive Shaft Ball Bearing
248	109030	1	Gear—Pinion—Dr. Shaft (Sold only with Ref. 254)
249	109031	1	Flat Washer—Drive Shaft to Pinion Screw
250	109032	1	Screw—Cap—Drive Shaft to Pinion
251	109033	1	Plug—Grease Filler
252	109034	1	Bearing—Roller—Propeller Shaft
254	109036	1	Gear—Propeller Shaft (Sold only with Ref. 248) (Specify Motor Serial No.)
255	109037	1	Pin—Propeller Shaft Gear Drive
256	109038	1	Shaft—Propeller
	109039		Propeller Shaft, Gear, Pin & Pinion (Incl. Ref. 248, 253, 254, 255, 256)
257	109040	1	Bearing—Ball—Propeller Shaft
258	109041	1	Ring—Retaining—Propeller Shaft Ball Bearing
259	109042	1	Spacer—Water Pump
260	109043	1	Seal—"O" Ring—Pump Housing to Gear Case
261	109044	1	Seal—Grease—Propeller Shaft (Sold only as unit with Ref. 262)
262	109045	1	Housing—Water Pump (Incl. Ref. 261, 262, 263, 264)
263	109046	1	Segment—Water Pump Housing (Sold only as unit with Ref. 262)
264	109047	1	Screw—Flat Head—Segment to Water Pump Housing (Sold only as unit with Ref. 262)
265	109048	1	Impeller—Water Pump
266	109049	1	Pin—Pump Impeller Drive
267	109050	1	Bushing—Propeller Shaft
268	109051	1	Retainer—Propeller Shaft Bushing
269	109052	1	Pin—Water Pump Housing Lock
270	109053	1	Ring—Retaining—Propeller Shaft Bushing Retainer

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LOWER UNIT (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
271	109101	1	Pin—Propeller Shear
272	109102	1	Hub—Propeller Shock Absorber
273	109103	1	Shock Absorber—Propeller
274	109104	1	Propeller
275	109105	1	Nut—Propeller
276	109106	1	Pin—Propeller Nut Cotter
277	109107	1	Pin—Auxiliary Drive (Same as Ref. 271)
			MAGNETO
	10-58200	1	Magneto
1	10-58228Y	1	Flange—Magneto Mounting
2	10-52344W	2	Contact Assembly—Breaker
3	2-194	2	Washer—Lock (Primary Conn. to Contact Assy. Nut)
4	10-38682	2	Nut—(Primary Conn. to Contact Assy.)
5	10-14268	2	Washer—Plain (Adj.-End of Contact Assy.)
6	10-51661	4	Screw & Lockwasher (Contact Assy. to Flange)
7	10-58224Y	2	Condenser
8	10-51662	4	Screw & Lockwasher (2, Condenser—2, H.T. Lead Clamp)
9	10-70128	2	Coil
10	10-37804	4	Clamp—Coil Core
11	10-52372	2	Lead—High Tension
12	10-37806	2	Insulator—H. T. Connection (Coil)
13	10-37807	2	Clamp—High Tension Lead
14	10-58243	1	Cam—Breaker
15	10-58244	1	Washer—Waved
16	10-58235	1	Plate—Magneto Retaining
17	10-58245	4	Screw & Lockwasher (Retaining Plate)
	10-58249	1	Magnet—Rotating (See Ref. No. 72, Power Head)
	10-20704		No. 47 Compound—½ Lb. Tube
			CARBURETOR
	MD-45A		Carburetor Assembly
1	09295	1	Body, Upper Half
2	*02531	1	Body Channel Welch Plug
3	07903	1	Body Gasket
4	06062	4	Body Retaining Screw & Lockwasher
5	09208	1	Choke Shaft & Lever
6	07944	1	Choke Shaft Return Spring
7	08597	1	Choke Shaft Return Spring Retaining Clip
8	09388	1	Choke Shutter Assy. (Supersedes Part 09148, pict.)
9	05204	2	Choke Shutter Screw
10	06833	1	Flange Gasket
11	07804	1	Float
12	*07901	1	Float Lever Pinion Screw
13	08500	1	Fuel Bowl
14	07896	1	Fuel Bowl Plug Screw
15	*09282	1	Idle Adjustment Screw
16	*08736	1	Idle Adjustment Screw Spring
17	*06095	2	Idle Adjustment Screw Washer
18	*09142	1	Idle Tube
19	07900	1	Idle Tube Gasket
20	*08708	1	Inlet Needle, Seat & Gasket

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CARBURETOR (Cont'd)

Ref. No.	Part No.	No. Req.	PART NAME
21	02510	1	Inlet Seat Gasket
22	*09278	1	Main Adjustment Screw
23	0702	1	Main Adjustment Screw Gland
24	0676	1	Main Adjustment Screw Gland Gasket
25	09112	1	Main Adjustment Screw Packing
26	0703	1	Main Adjustment Screw Packing Set
27	*09291	1	Main Nozzle
28	01102	1	Main Nozzle Channel Plug Screw
29	09229	1	Strainer Bowl
30	09231	1	Strainer Bowl Cup & Thumb Nut
31	09234	1	Strainer Bowl Clamp Wire & Stud
32	08227	1	Strainer Bowl Gasket
33	*08574	1	Strainer Bowl Screen
34	09284	1	Throttle Lever (Includes Ref. Nos. 35 & 41)
35	0240	1	Throttle Lever Clamp Screw
36	09275	1	Throttle Shaft
37	*07910	1	Throttle Shaft Return Spring
38	*08597	1	Throttle Shaft Return Spring Retaining Clip
39	09099	1	Throttle Shutter
40	*08942	2	Throttle Shutter Screw
41	*058	1	Throttle Wire Retaining Screw
42	*09050		GASKET & PACKING SET
43	09204		REPAIR PARTS KIT

(*) Indicates contents of REPAIR PARTS KIT

GASKET SET

Gasket Set for Model K consists of part numbers:

40	103011	1	Gasket—Fuel Tank Filler Cap
91	105025		Gasket—Upper Main Bearing Retainer to Block
95	105029		Gasket—Water Jacket Plate
98	105033		Gasket—Exhaust Port Cover Jacket
100	105035		Gasket—Exhaust Port Cover to Block
101	105036		Gasket—Lower Main Bearing to Block
115	105050		Gasket—Cylinder Head
142	105078		Gasket—Manifold Retainer to Cylinder Block
146	105082		Gasket—Manifold to Retainer
155	105091		Gasket—Carburetor
220	109001		Gasket—Transmission Housing to Cylinder Block

SPECIAL ITEMS

109200			Decal Set Complete
109201	2		Decal "Chris-Craft"
109202	2		Decal "Commander"
109203	1		Decal "Operating Instructions"
109301			Commander Blue 1/2 Pint
109302			Commander Blue 1 Pint
109303			Commander Blue 1 Quart
109304			Commander Blue 1 Gallon
109305			Sealer—Gasket & Metal to Metal

20.00
15.00

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